REC'D 2 0 APR 2005

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applica	nt's or agent's file reference			_		
International application No. Internation PCT/EP 03/14544 12.12.20		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)				
		International filing date (date)	ay/month/yea			
Internati C10G6	onal Patent Classification (IPC) or 67/04	both national classification ar	d IPC			
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Applican						
ENI S.I	P.A. 		_			
1. Th	is international preliminary exa thority and is transmitted to th	arnination report has been e applicant according to A	orepared by	y this International Preliminary Examining		
2. Th	is REPORT consists of a total	of 5 sheets, including this	cover shee	et.		
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The	ese annexes consist of a total	of sheets.		o under the PO1).		
3. This	s report contains indications re	lating to the following item	s:			
I	Basis of the opinion			·		
11	☑ Priority			•		
III IV	Non-establishment of o	pinion with regard to nove	lty, inventiv	e step and industrial applicability		
V	-ack of armly of life of the	J11				
•	citations and explanation	nder Rule 66.2(a)(ii) with r ons supporting such stater	gard to no	velty, inventive step or industrial applicability;		
VI	☐ Certain documents cite		ierit	,		
VII	Certain defects in the in	nternational application				
VIII	☐ Certain observations or	the international applicat	on			
				•		
Date of sub	mission of the demand	Da	e of complet	ion of this report		
6.07.200		1	04.2005			
lame and n reliminary e	ame and mailing address of the international eliminary examining authority:		norized Offic	er		
<u>)</u>))	European Patent Office - P.B. 5 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 6 Fax: +31 70 340 - 3016	51 epo nl Gil	iquet, J-N			
 -		Tel	phone No. +	31 70 340-4573		

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP 03/14544

I.	Basis	of the	report
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1. With regard to the **elements** of the international application (Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)):

	D	escription, Pages	
	1-	32	as originally filed
	CI	aims, Numbers	
	1-:	36	as originally filed
	Dr	awings, Sheets	
	1		as originally filed
2.	Wi lar	th regard to the lang Iguage in which the i	uage, all the elements marked above were available or furnished to this Authority in the nternational application was filed, unless otherwise indicated under this item.
	Th	ese elements were a	vailable or furnished to this Authority in the following language: , which is:
			ranslation furnished for the purposes of the international search (under Rule 23.1(b)).
		the language of pu	blication of the international application (under Rule 48.3(b)).
		the language of a t Rule 55.2 and/or 55	ranslation furnished for the purposes of intermediate to the
3.	Wit inte	h regard to any nuc l ernational preliminary	eotide and/or amino acid sequence disclosed in the international application, the examination was carried out on the basis of the sequence listing:
			ernational application in written form.
			he international application in computer readable form.
		furnished subseque	ently to this Authority in written form.
			ently to this Authority in computer readable form.
		The statement that	the subsequently furnished written sequence listing does not go beyond the disclosure application as filed has been furnished.
		The statement that listing has been furn	the information recorded in computer readable r
4.	The	amendments have	resulted in the cancellation of:
		the description,	pages:
		the claims,	Nos.:
		the drawings,	sheets:

INTERNATIONAL PRELIMINARY **EXAMINATION REPORT**

International application No.

PCT/EP 03/14544

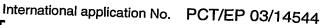
5	. 🗆	This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).
		(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)
6.	. Ad	ditional observations, if necessary:
II.	Pri	ority
1.	☒	This report has been established as if no priority had been claimed due to the failure to furnish within the prescribed time limit the requested:
		copy of the earlier application whose priority has been claimed.
		translation of the earlier application whose priority has been claimed.
2.		This report has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid.
	Thu rele	s for the purposes of this opinion, the international filing date indicated above is considered to be the vant
3.	Add	itional observations, if necessary

- 3. Additional observations, if necessary:
- V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- 1. Statement

Novelty (N)	Yes: No:	Claims Claims	1-36
Inventive step (IS)	Yes: No:	Claims Claims	1-36
Industrial applicability (IA)	Yes: No:	Claims Claims	1-36

2. Citations and explanations

see separate sheet



Re Item V.

- The following document is referred to in this communication: 1 D1: US 5 932 090 A (DELBIANCO ALBERTO ET AL) 3 August 1999 (1999-08-03)
- Document D1 (See claim 1 and Fig. 1 of D1), which is considered to represent the 2 most relevant state of the art, discloses a process for the conversion of heavy crude oils and distillation residues to distillates comprising the following steps: admixing said heavy crude oil or distillation residue with a suitable hydrogenation obtain a slurry, transferring said slurry to a hydrotreating reactor catalyst to introducing hydrogen or a mixture of hydrogen and H2S to said hydrotreating reactor and hydrotreating said heavy crude oils at a temperature of between 370 DEG C., thus converting said heavy crude oils and distillation residues and 480 to distillates:

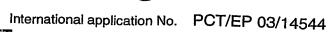
transferring a stream containing the hydrotreated reaction product and the catalyst to a distillation zone and distilling a stream containing the hydrotreated reaction product and the catalyst in the slurry phase and separating the most volatile fractions;

deasphalting a high-boiling fraction obtained in the distillation step by transferring said high-boiling fraction to a deasphaltation zone obtaining two streams, one consisting of deasphalted oil (DAO), the other comprising asphaltenes, catalyst in slurry phase, coke and rich in metals coming from the initial charge; recycling at least 60% of said stream comprising asphaltenes, catalyst in slurry phase, coke, and rich in metals, to the hydrotreating zone

From this, the subject-matter of independent claim 1 differs in that: a fraction of the stream containing asphaltenes, called flushing stream, is sent to a treatment section with a suitable solvent for the separation of the product into a solid fraction and a liquid fraction from said solvent can be subsequently removed.

The subject-matter of claim 1 is therefore novel (Article 33(2) PCT) 2.1 The problem to be solved by the present invention may be regarded as how to improve this process by reducing the amount of flushing fraction and by upgrading (see p.12 § 1 of present description).





The solution to this problem proposed in claim 1 of the present application is 2.2 considered as involving an inventive step (Article 33(3) PCT) because no documents of the prior art on file discloses this distinguishing feature nor gives a hint to its effect.



(84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

 without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.